



JFW

CUSTOMER NUMBER 27792

1
2 IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
3

4 Applicant: Andrew Wilson Attorney Docket No. MICR0482
5

6 Serial No.: 10/814,577 Group Art Unit: 2127
7

8 Filed: March 31, 2004 Examiner:
9

10 Title: IDENTIFICATION OF OBJECT ON INTERACTIVE DISPLAY SURFACE
11 BY IDENTIFYING CODED PATTERN
12

13 INFORMATION DISCLOSURE STATEMENT
14

15 Bellevue, Washington 98004
16

17 September 22, 2004
18

19 TO THE COMMISSIONER FOR PATENTS:

20 Applicant is aware of the information listed in the attached form that may be material to the
21 prosecution of the above-identified patent application.
22

23 1. Copies of the listed non-U.S. patent publications and other information are enclosed
24 for the Examiner's use.
25 2. Copies of the listed patents, publications, and other information were previously cited by
26 or submitted to the U.S. Patent and Trademark Office in prior application Serial
27 No. _____, filed _____, and relied upon for an earlier filing date under 35 U.S.C. § 120.
28 3. A concise explanation of the relevance of document I.D. No. _____ (which is not in
29 the English language), as presently understood by the individual designated under 37
30 C.F.R. § 1.56(c) most knowledgeable about its content, is provided _____.
31
 4. Pursuant to 37 C.F.R. § 1.97(b), this information disclosure statement is being filed
32 within three months of the filing date of the national application, within three months of
33 the date of entry of the national stage as set forth in 37 C.F.R. § 1.491 in an international
34 application, or before the mailing date of a first Office Action on the merits.
35
 5. Pursuant to 37 C.F.R. § 1.97(c), this information disclosure statement is being filed
36 after the period set forth in 37 C.F.R. § 1.97(b) but before the mailing date of either a
37 final action under 37 C.F.R. § 1.113, or a notice of allowance under 37 C.F.R. § 1.311,
38 and is accompanied by:
39 a. _____ a certification as specified in 37 C.F.R. § 1.97(e); or
40 b. _____ the fee set forth in 37 C.F.R. § 1.17(p). Check No. _____ in the amount of
41 \$ _____ is enclosed.

6. Pursuant to 37 C.F.R. § 1.97(d), this information disclosure statement is being filed after the mailing date of either:

- a. _____ a final action under 37 C.F.R. § 1.113; or
- b. _____ a notice of allowance under 37 C.F.R. § 1.311,

but before payment of the issue fee. The statement is accompanied by a certification as specified in 37 C.F.R. § 1.97(e), a statement requesting consideration of the information disclosure statement, and the petition fee set forth in 37 C.F.R. § 1.17(p). Check No. _____ in the amount of \$____ is enclosed.

X 7. Please charge any additional fees or credit any overpayment to Deposit Account No. 01-1940. A copy of this sheet is enclosed.

Respectfully submitted,

Ron Anderson

Ronald M. Anderson
Registration No. 28,829

I hereby certify that this correspondence is being deposited with the U.S. Postal Service in a sealed envelope as first class mail with postage thereon fully prepaid addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on September 22, 2004.

Date: September 22, 2004

Kathy Davis



CUSTOMER NUMBER 27792

INFORMATION DISCLOSURE STATEMENT LISTING SHEET

Information Cited By Applicant(s) That May Be Material To
The Prosecution Of The Subject Application

Applicant: Andrew Wilson Attorney Docket No. MICR0482

Serial No.: 10/814,577 Group Art Unit: 2127

Filed: March 31, 2004 Examiner:

Title: IDENTIFICATION OF OBJECT ON INTERACTIVE DISPLAY SURFACE
BY IDENTIFYING CODED PATTERN

U.S. PATENT DOCUMENTS

<u>*Examiner Initial</u>	<u>ID</u>	<u>Document No.</u>	<u>Date</u>	<u>Name</u>	<u>Class</u>	<u>Sub-Class</u>
	US1	4,992,650	02/12/1991	Somerville	235	462

FOREIGN PATENT DOCUMENTS

NONE CITED

OTHER INFORMATION

<u>*Examiner Initial</u>	<u>Document No.</u>	<u>Document Information</u>
	O1	"3.6 Interpolation in Two or More Dimensions." Numerical Recipes in C: The Art of Scientific Computing. Chapter 3. Interpolation and Extrapolation. © 1988-1992, Cambridge University Press. Numerical Recipes Software. pp. 123-128.
	O2	"Bar Code 1, 2-Dimensional Bar Code Page." Available http://www.adams1.com/pub/russadam/stack.html . Printed 01/20/2004. 14pp.
	O3	Ambiente article. "InteracTable®." Dated 07-Jul-2k. Available http://www.darmstadt.gmd.de/ambiente/activities/interactable.html . Printed 11/21/2003. 3pp.
	O4	Bier, Stone, Pier, Buston, and DeRose. "Toolglass and Magic Lenses: The See-Through Interface." <i>Proceedings of Siggraph '93</i> (Anaheim, August). <i>Computer Graphics Annual Conference Series</i> , ACM, 1993, pages 73-80. 8pp.
	O5	Blickenstorfer, Conrad H. "First Look: Acer TravelMate TM100 with Windows XP Tablet PC Edition." <i>Pen Computing Magazine</i> . July 2002. pp. 44-47.
	O6	"DiamondSpin - Begs for Direct Manipulation Technology Is it the Pen? Sony Leaps Out-of-the-Box Again with Gummi." Mitsubishi/DiamondSpin. CHI 2004 #3. Printed 4/30/2004. 5pp.

OTHER INFORMATION

<u>*Examiner Initial</u>	<u>Document No.</u>	<u>Document Information</u>
_____	O7	Dietz and Leigh. "DiamondTouch: A Multi-User Touch Technology." <i>UIST '01 Orlando FLA</i> . © ACM 2001 1-58113-438 -x/01/11. CHI Letters 3 (2). November 11-14, 2001. pp. 219-226.
_____	O8	Electronic Check Alliance Processing, Inc. "Gift Cards, How Stored Value Card Systems Work." Available. http://www.electron-cap.com/GiftCards.htm . Printed 1/20/2004 and 05/16/2004. ©2003. 2pp. total (3pp printed).
_____	O9	Fukuchi and Rekimoto. "Interaction Techniques for SmartSkin." <i>ACM UIST2002 demonstration</i> , 2002. 2pp.
_____	O10	Grabowski, Robert. "A Miniature Video Laser Range Finder for Small Robots." Available http://www.andrew.cmu.edu/~rjg/research/research_hardware/laser_rangefinder.html . Printed 5/16/2004. 8pp.
_____	O11	Grant and Winograd. "Flexible, Collaborative Organization on a Tabletop." <i>ACM CSCW 2002: Workshop on Co-located Tabletop Collaboration: Technologies and Directions</i> . New Orleans, LA. November 2002. pp. 1-4.
_____	O12	Horn, Berthold K. P. "Robot Vision." The MIT Press. Available http://mitpress.mit.edu/catalog/item/default.asp?type=2&tid=8388 . Printed 12/17/2003. 6pp. total.
_____	O13	Horn, Berthold Klaus Paul. "Robot Vision." Binary Images: Topological Properties. The MIT Electrical Engineering and Computer Science Series. 1986. pp. 66-71 and cover page(s).
_____	O14	Hunter, Andrew. "Connected Components Analysis (Computer Vision)." www.google.com search results http://www.google.com/search?sourceid=navclient&q=connected+component+ellipse . Printed 3/7/2004. Article dated 09/24/2002. 2pp search results, 21pp article.
_____	O15	"IR Distance Sensor." Available http://www.diyelectronics.com/Accessories/IRDS.html (2pp) and http://www.diyelectronics.com/Accessories/GP2D05.html (1pg). Printed 12/30/2003. 3pp.
_____	O16	Ishii and Ullmer. "Tangible Bits: Towards Seamless Interfaces between People, Bits and Atoms." <i>Proceedings of CHI '97</i> , March 22-27, 1997, Atlanta, Georgia. © 1997 ACM 0-89791-802-9/97/03. pp. 1-8.
_____	O17	Ishii, Wisneski, Orbanes, Chun, and Paradiso. "PingPongPlus: Design of an Athletic-Tangible Interface for Computer-Supported Cooperative Play." <i>Proceeding of CHI '99</i> , May 15-20, 1999, © 1999 ACM. pp. 1-8.
_____	O18	Johanson, Kolodny, and Russell. "A Hand pose and Position Tracker for the Interactive Table." CS223B Final Project. Available http://graphics.stanford.edu/~drussel/vision/tracker-report.html . Printed 12/16/2003, 6pp.
_____	O19	Ju, Hurwitz, Judd, and Lee. "CounterActive: An Interactive Cookbook for the Kitchen Counter." <i>Extended Abstracts of CHI 2001</i> , Seattle. April 2001. pp. 269-270.
_____	O20	Kang, Sing Bing. "Radial Distortion Snakes." <i>IAPR Workshop on Machine Vision Applications (MVA2000)</i> , Tokyo, Japan. November 2000. pp. 603-606.
_____	O21	Kato, Billinghurst, Poupyrev, Iimamoto, and Tachibana. "Virtual Object Manipulation on a Table-Top AR Environment." <i>IEEE and ACM Int'l Symposium on Augmented Reality 2000, ISAR '2000, October 5-6, 2000, Munich</i> . 9pp.
_____	O22	Klemmer, Newman, and Sapien. "The Designer's Outpost: A Task-Centered Tangible Interface for Web Site Information Design." <i>Proceedings of Human Factors in Computing Systems: CHI 2000 Extended Abstracts</i> . The Hague, The Netherlands. April 1-6, 2000. pp. 333-334.
_____	O23	Klemmer, Newman, Farrell, Bilezikjian, and Landay. "The Designers' Outpost: A Tangible Interface for Collaborative Web Site Design." <i>CHI Letters, The 14th Annual ACM Symposium on User Interface Soft Technology: UIST 2001</i> . 3(2). pp. 1-10.
_____	O24	Kobayashi, Hirano, Narita, and Ishii. "A Tangible Interface for IP Network Simulation." <i>CHI 2003</i> , April 5-10, 2003, Ft. Lauderdale, FL ACM 1-58113-630-7/03/0004. 2pp.
_____	O25	Koike, Sato, and Kobayashi. "Integrating Paper and Digital Information on EnhancedDesk: A Method for Realtime Finger Tracking on an Augmented Desk System." <i>ACM Transaction on Computer-Human Interaction</i> , Vol. 8 No. 4, December 2001. © 2001 ACM 1073-0516/01/1200-0307. pp. 307-322.

OTHER INFORMATION

<u>*Examiner Initial</u>	<u>Document No.</u>	<u>Document Information</u>
_____	O26	Leibe, Starner, Ribarsky, Wartell, Krum, Singletary, and Hodges. "The Perceptive workbench: Toward Spontaneous and Natural Interaction In Semi-Immersive Virtual Environments." <i>Proceedings of the IEEE Virtual Reality 2000 Conference</i> , March 18-22, 2000. New Brunswick, New Jersey: IEEE Computer Society, 2000. 8pp.
_____	O27	Leigh and Dietz. "DiamondTouch Characteristics and Capabilities." Mitsubishi Electric Research Laboratories, Cambridge, Massachusetts, USA. Undated. 2pp.
_____	O28	Magerkurth, Stenzel, and Prante. "STARS - A Ubiquitous Computing Platform for Computer Augmented Tabletop Games." <i>5th International Conference on Ubiquitous Computing (Ubicomp '03)</i> , October 12-15, 2003, Seattle, Washington. 2pp.
_____	O29	Malandain, Grégoire. "Connected Components Extraction." Available http://www-sop.inria.fr/epidaure/personnel/malandain/segment/connexe.html . Printed 12/18/2003. 3pp.
_____	O30	Matsushita and Rekimoto. "HoloWall: Designing a Finger, Hand, Body, and Object Sensitive Wall." <i>UIST '97</i> Banff, Alberta, Canada. © 1997 ACM 0-89791-881-9/97/10. pp. 209-210.
_____	O31	Missouri Department Of Revenue. "2D Barcode Technology." Undated. 3pp.
_____	O32	Moran, Saund, van Melle, Gujar, Fishkin, and Harrison. "Design and Technology for Collaborative Collages of Information on Physical Walls." <i>UIST '99</i> . Asheville, NC. © 1999 ACM 1-58113-075-9/99/11, CHI Letters vol 1, 1. pp. 197-206.
_____	O33	Pangaro, Maynes-Aminzade, and Ishii. "The Actuated Workbench: Computer-Controlled Actuation in Tabletop Tangible Interfaces." <i>Proceedings of UIST 2002</i> , October 27-30, 2002. © 2002 ACM. 10pp.
_____	O34	Paradiso, Hsiao, Strickon, Lifton, and Adler. "Sensor systems for interactive surfaces." <i>IBM Systems Journal</i> , Vol. 39, Nos. 3&4, 2000. pp. 892-914.
_____	O35	Patten, Ishii, Hines, and Pangaro. "Sensetable: A Wireless Object Tracking Platform for Tangible User Interfaces." <i>Proceedings of CHI 2001</i> , March 31-April 5, 2001, ACM Press, © 2001 ACM. 8pp.
_____	O36	Patten, Recht, and Ishii. "Audiodpad: A Tag-based Interface for Musical Performance." <i>Proceedings of Conference on New Interface for Musical Expression (NIME '02)</i> . Dublin, Ireland, May 24-26, 2002. 6pp.
_____	O37	Ramos and Balakrishnan. "Fluid Interaction Techniques for the Control and Annotation of Digital Video." <i>UIST '03</i> Vancouver, B.C., Canada. © 2003 ACM 1-58113-636-06/03/0010. pp. 105-114.
_____	O38	Rekimoto and Ayatsuka. "CyberCode: Designing Augmented Reality Environments with Visual Tags." <i>Proc. of UIST 2000</i> , 2000. 10pp.
_____	O39	Rekimoto and Matsushita. "Perceptual Surfaces: Towards a Human and Object Sensitive Interactive Display." <i>Proceedings of Workshop on Perceptual User Interactes (PUI'97)</i> , 1997. 3pp.
_____	O40	Rekimoto and Nagao. "The World through the Computer: Computer Augmented Interaction with Real World Environments." <i>Proceedings of UIST'95</i> , 1995. pp. 29-36.
_____	O41	Rekimoto and Saitoh. "Augmented Surfaces: A Spatially Continuous Work Space for Hybrid Computing Environments." <i>CHI '99</i> , 15-20 May 1999. Pittsburgh, Pennsylvania. © ACM 1999 0-201-48559-1/99/05. pp. 378-385.
_____	O42	Rekimoto, Jun. "Matrix: A Realtime Object Identification and Registration Method for Augmented Reality." <i>Proc. of Asia Pacific Computer Human Interaction (APCHI '98)</i> , 1998. 6pp.
_____	O43	Rekimoto, Jun. "Multiple-Computer User Interfaces: 'Beyond the Desktop' Direct Manipulation Environments." <i>ACI CHI2000 Video Proceedings</i> , 2000. 2pp.
_____	O44	Rekimoto, Jun. "Pick-and-Drop: A Direct Manipulation Technique for Multiple Computer Environments." <i>Proceedings of UIST'97</i> , 1997. pp. 31-39.

OTHER INFORMATION

<u>*Examiner Initial</u>	<u>Document No.</u>	<u>Document Information</u>
_____	O45	Rekimoto, Jun. "SmartSkin: An Infrastructure for Freehand Manipulation on Interactive Surfaces." <i>CHI 2002</i> , April 20-25, 2002, Minneapolis, Minnesota. © 2001 ACM 1-58113-453-3/02/0004. 8pp.
_____	O46	Rekimoto, Ullmer, and Oba. "DataTiles: A Modular Platform for Mixed Physical and Graphical Interactions." <i>SIGCHI'01</i> , March 31-April 4, 2001, Seattle, WA. © 2001 ACM 1-58113-327-8/01/0003. 8pp.
_____	O47	Reznik, Canny, and Alldrin. "Leaving on a Plane Jet." <i>2001 Int. Conf. on Intell. Robots & Systems (IROS)</i> , Maui, Hawaii, October 2001. 6pp.
_____	O48	Ringel, Gerh, Jin, and Winograd. "Barehands: Implement-Free Interaction with a Wall-Mounted Display." Short Talks. <i>CHI 2001</i> 31 March - 5 April. Pp. 367-368.
_____	O49	Rosenfeld, Zawadzki, Sudol, and Perlin. "Planar Manipulator Display." New York University mrl. NYU Media Research Lab. Available http://cat.nyu.edu/PMD . Printed 5/16/2004. 3pp.
_____	O50	Rovani, David (Posted by). "My Second Month with the Compaq Tablet." <i>Home>Reviews, TablePCHome.com - Table PC user community</i> . Posted 4/10/2003. Available http://www.tabletpchome.com/Messages.aspx?ThreadID=140 . Printed 12/30/2003. pp. 1-2 of 5.
_____	O51	Schmalstieg, Encarnaçao, and Szalavári. "Using Transparent Props for Interaction With The Virtual Table." Presented at <i>1999 ACM Symposium on Interactive 3D Graphics (I3DG '99)</i> . April 26-28, 1999, Atlanta, GA. 7pp.
_____	O52	Scott, Grant, and Mandryk. "System Guidelines for Co-located collaborative Work on a Tabletop Display." <i>Proceedings of ECSCW'03, European Conference Computer-Supported Cooperative Work 2003</i> , Helsinki, Finland, September 14-18, 2003. 20pp.
_____	O53	Shen, Everitt, and Ryall. "UbiTable: Impromptu Face-to-Face Collaboration on Horizontal Interactive Surfaces." © Mitsubishi Electric Research Laboratories, Inc., 2003. Cambridge, Massachusetts. TR-2003-49. September 2003. 10pp.
_____	O54	Shen, Lesh, and Vernier. "Personal Digital Historian: Story Sharing Around the Table." <i>Interactions</i> . March + April 2003. pp. 15-22.
_____	O55	Shen, Lesh, Bernier, Forlines, and Frost. "Sharing and Building Digital Group Histories." <i>CSCW'02</i> , November 16-20, 2002, New Orleans, Louisiana. © 2002 ACM 1-58113-560-2/02/0011. 10pp.
_____	O56	Shen, Lesh, Moghaddam, Beardsley, and Bardsley. "Personal Digital Historian: User Interface Design." © Mitsubishi Electric Research Laboratories, Inc. 2001. Cambridge, Massachusetts. 5pp.
_____	O57	Shen, Vernier, Forline, and Ringel. "DiamondSpin: An Extensible Toolkit for Around-the-Table Interaction." <i>CHI 2004</i> , April 24-29, 2004, Vienna, Austria. © 2004 ACM 1-58113-702-8/04/0004. 8pp.
_____	O58	SMART Technologies Inc. White Paper. "DViT Digital Vision Touch Technology." February 2003. 10pp.
_____	O59	Smart Technologies, Inc. "Rear Projection SMART Board™ Interactive Whiteboard" "SMART Board Software". Available http://www.smarttech.com/Products/rearprojection/index.asp and http://www.smarttech.com/Products/sbsoftware/index.asp . Printed 12/16/2003. 5pp. total.
_____	O60	Starner, Leibe, Singletary, Lyons, Gandy, and Pair. "Towards Augmented Reality Gaming." Available http://www.gvu.gatech.edu/ccg/publications/imagina2000/ . Printed 12/30/2003. 27pp.
_____	O61	Streitz, Geißler, Holmer, Konomi, Müller-Tomfelde, Reischl, Rexrogh, Seitz, and Steinmetz. "i-LAND: An interactive Landscape for Creativity and Innovation." <i>Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI'99)</i> , Pittsburgh, Pennsylvania, May 15.-20, 1999. ACM Press, New York. Pp. 120-127.
_____	O62	Symanzik, Jürgen. "Three-Dimensional Statistical Graphics Based On Interactively Animated Anaglyphs." Published 1993. Available http://citeseer.nj.nec.com/95667.html . Printed 2/25/2004. 7pp. total.
_____	O63	"The Tablet PC A detailed look at Microsoft's proposed Tablet PC." <i>Pen Computing Magazine: Tablet PC</i> . Available http://www.pencomputing.com/frames/textblock_tablet_pc.html . Printed 12/30/2003. pp. 1

OTHER INFORMATION

<u>*Examiner Initial</u>	<u>Document No.</u>	<u>Document Information</u>
_____	O64	Tandler, Prante, Müller-Tomfelde, Streitz, and Steinmetz. "ConnecTables: Dynamic Coupling of Displays for the Flexible Creation of Shared Workspaces." <i>Proceedings of the 14. Annual ACM Symposium on User Interface Software and Technic (UIST'01)</i> , ACM Press (CHI Letters 3 (2)), 2001, pp. 11-20 (10pp).
_____	O65	Ullmer and Ishii. "The metaDESK: Models and Prototypes for Tangible User Interfaces." <i>Proceedings of UIST'97</i> , October 14-17, 1997. © 1997 ACM - ACM 0-89791-881-9/97/10. 10pp.
_____	O66	Ullmer, Ishii, and Glas. "mediaBlocks: Physical Containers, Transports, and Controls for Online Media." <i>Computer Graphics Proceedings (SIGGRAPH'98)</i> , July 19-24, 1998, © 1998 ACM. ACM-0-89791-999-8-8/98/007. 8pp.
_____	O67	Ullmer, Ishii, and Jacob. "Tangible query Interfaces: Physically Constrained Tokens for Manipulating Database Queries." <i>Proc. INTERACT 2003 Conference</i> , 2003. 11pp.
_____	O68	Underkoffler and Ishii. "Illuminating Light: An Optical Design Tool with a Luminous-Tangible Interface." <i>Proceeding of CHI '98</i> , April 18-23, 1998, © 1998 ACM. pp. 1-8.
_____	O69	Underkoffler and Ishii. "Urp: A Luminous-Tangible Workbench for Urban Planning and Design." <i>Proceedings of CHI '99</i> . May 15-20, 1999. © 1998 ACM. pp. 1-8.
_____	O70	Underkoffler, Ullmer, and Ishii. "Emancipated Pixels: Real-World Graphics in the Luminous Room." <i>Proceedings of SIGGRAPH '99</i> , August 8-13, 1999, © 1999 ACM. 8pp.
_____	O71	Vernier, Lesh, and Shen. "Visualization Techniques for Circular Tabletop Interfaces." To appear in <i>Advanced Visual Interfaces</i> , May 2002, Trento, Italy. © 2002 Mitsubishi Electric Research Laboratories, Inc. MERL-TR2002-01. Authored March 2002. 10pp.
_____	O72	Viola and Jones. "Robust Real-time Object Detection." Cambridge Research Laboratory, Technical Report Series. Compaq. CRL 2001/01, February 2001. 30pp.
_____	O73	"VIRTUALBOARD." Available http://visilab.unime.it/visilab/virtualboard.htm . Printed 12/16/2003. 6pp.
_____	O74	Von Hardenberg and Bérard. Bare-Hand Human-Computer Interaction." <i>PUI 2001</i> Orlando, FL, ©2001 ACM 1-58113-448-7-11/14/01. 8pp.
_____	O75	Wellner, Pierre. "Interacting with Paper on the DigitalDesk." <i>Communications of the ACM</i> . July 1993. EuroPARC tech report EPC-93-195. 17pp.
_____	O76	Whalen, Tara. "Playing well with Others: Applying Board Game Design to Tabletop Display Interfaces." <i>UIST 2003</i> . Vancouver, November 2-5, 2003, 3pp.
_____	O77	Wu and Balakrishnan. "Multi-Finger and Whole Hand Gestural Interaction Techniques for Multi-User Tabletop Displays." <i>UIST '03</i> , Vancouver, B.C., Canada. © 2003 ACM 1-58113-636-6/03/0010. pp. 193-202.

Examiner's Signature

Date

*Examiner: Initial if reference considered, whether or not citation is in conformance with M.P.E.P. § 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

RMA:klp
9/22/04